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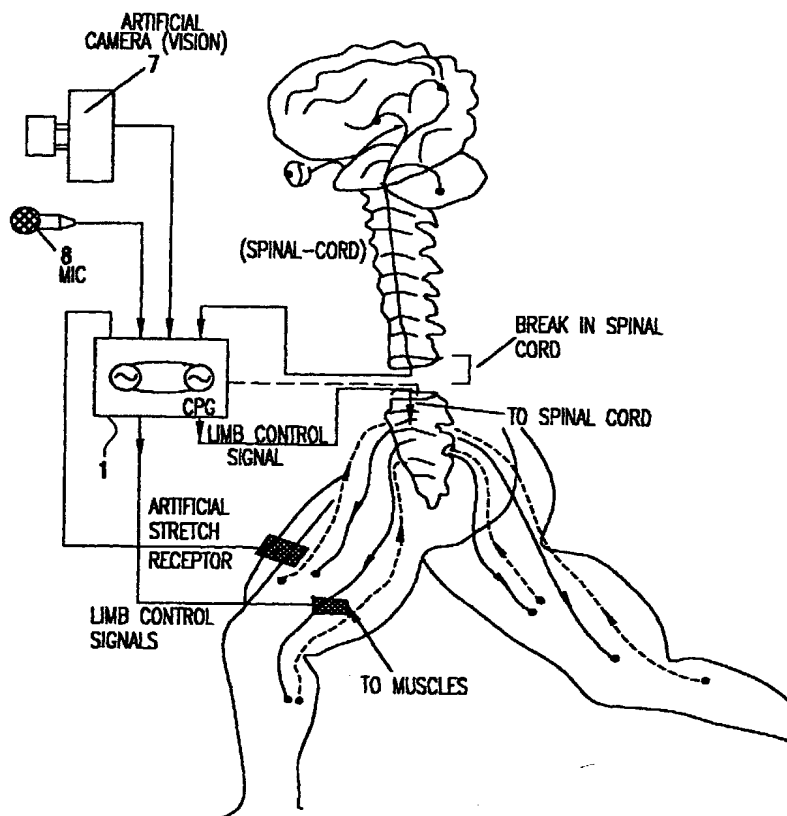
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(54) Title: BIOMORPHIC RHYTHMIC MOVEMENT CONTROLLER



(57) Abstract: An artificial Central Pattern Generator (CPG) based on the naturally-occurring central pattern generator locomotor controller for walking, running, swimming, and flying animals may be constructed to be self-adaptive, by providing for the artificial CPG, which may be a chip, to tune its behavior based on sensory feedback. It is believed that this is the first instance of an adaptive CPG chip. Such a sensory feedback-using system with an artificial CPG may be used in mechanical applications such as a running robotic leg, in walking, flying and swimming machines, and in miniature and larger robots, and also in biological systems, such as a surrogate neural system for patients with spinal damage.

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